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Oxidase and Aviation
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Climate and Energy

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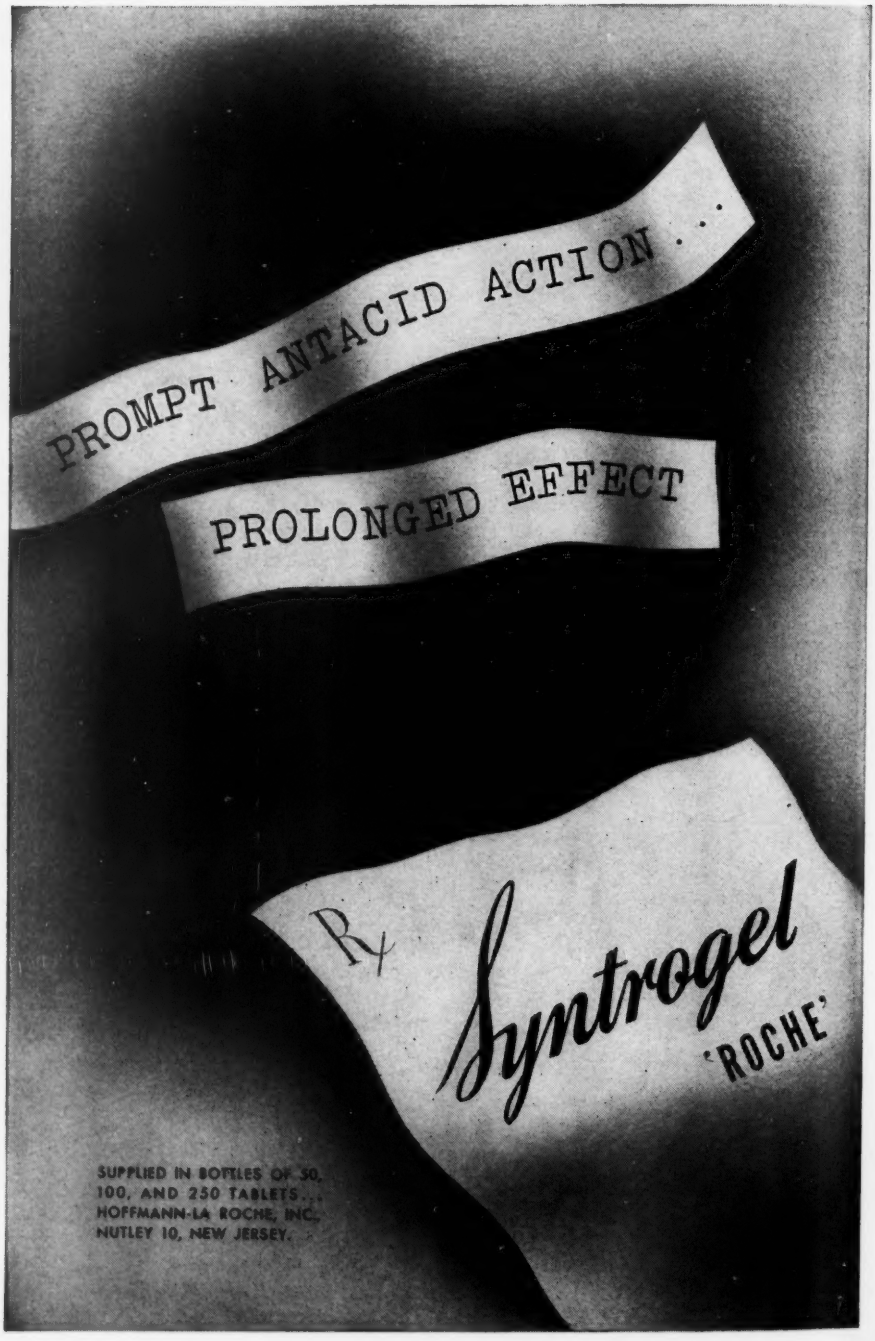
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EDITORIALS

A Devastating Brief Against Political Medicine

BURLINGAME offers a formidable argument against any further socializing of medicine in view of the appalling record of State medicine over a period of a hundred years in the conduct of our State hospitals for the mentally ill. In this field we have had a unique test of political medicine, and it is shocking in the main. While other branches of medicine were part of our free private enterprise system and were making phenomenal progress, ninety-five per cent of psychiatry languished, scandalously neglected, in jails, poorhouses and asylums.

This eminent psychiatrist makes the following striking points:

"There have been some good things and some reasonably good state institutions, but if we take the country as a whole, it is safe to say that only a small fraction of present-day knowledge in psychiatry is made available to the greater percentage of the patients in the six hundred thousand hospital beds already dedicated to the mentally ill of America. In some parts of the country, these victims of political medicine are probably not even receiving good board and room, to say nothing of scientific treatment.

"The lack of progress in this example of political medicine is appalling, and to compare the average care of the mentally ill in this country with any other part of the world does not eradicate the public disgrace of the over-all picture.

"The public should call for an up-to-date assay of results in psychiatry, and should think long and carefully before plunging headlong into anything that even resembles political handling of the other branches of medical care. Let the people demand first that the responsibility already assumed in psychiatry by State and political medicine be satisfactorily answered. Let the people demand that the ability of State medicine be demonstrated in its present responsibilities before going farther along the road toward political handling of medical care.

"The research attack upon this greatest of all public health problems is pathetic. Support from public funds is a mere pittance compared with the research backing which has come to other fields in which free enterprise in American medicine obtains. During the war period, the already pitiful State efforts in the field of psychiatry shrivelled, leaving us in a position which compares most unfavorably with the psychiatric progress achieved up to twenty years ago by State medicine.

"If the proponents of political medicine are really in earnest about improving public health, and if they are truly worried about the high percentage of rejectees on the military induction lines, let them look consistently at the fact that more than half of all the hospital beds in America are occupied by the mentally ill, and let them remember that approximately a third of the medical military rejectees, as well as approximately a third of the medical military dischargees, were in the field of psychiatry.

"Why ask for new worlds to conquer, when the obligations already belonging to socialized medicine have been so scandalously neglected? Why ask for more when a concentration of all their efforts and resources in this one field which is already their own offers the greatest single opportunity to bring health to the greatest number?"

The Threat of Nationalization in Britain

The British medical profession is firmly determined to resist its conversion into a technical branch of central or local govern-

ment. It believes that the recent moves of the National Health Service outfit may contain the germ of nationalization. The idea behind proposals for the abolition of the buying and selling of practices (until now a principal factor in affecting voluntary distribution of practitioners) seems to be aimed at the institution of a system of placing by governmental control. Partial remuneration by salary, it is suspected, would lead ultimately to full salaried status under the State. The proposals in question are not believed to be in the public interest.

Since practically everyone in Britain would be covered by the measures which have been proposed, the protestations of the politicians that they have no intention of making all doctors into civil servants have not been impressive. The nationalization of leading industries, proceeding apace, possesses relevance in this connection.

Obviously, the potential trend toward nationalization would be greatly enhanced if recent proposals should ever be put into effect. In resisting present and future trends of this sort the British profession is prepared to go far.

The Los Angeles Indoctrination Plan

The Los Angeles County Medical Association, third largest county medical society in the United States, recently instituted an indoctrination plan for new members which possesses some interesting and challenging features.

Each applicant for membership in the Los Angeles County Association must attend a course of lectures and pass an examination on professional ethics, malpractice prophylaxis, laws governing medical practice and narcotics, the state poison act, public health ordinances, laws governing birth, death and other certificates, history of the county association (aims, accomplishments and struggles), the work of the Physicians' Aid Association, the Medical Milk Commission, county hospital, the health department, and the coroner's office, the operation of workmen's compensation laws, and proper conduct as an expert witness.

Even applications are not considered unless the applicants first attend lectures on Medical Organization, Health Insurance, Medical Public Relations, Medical Ethics, Medical Education, Medical Economics, and Medical Malpractice. This is a preliminary canter, with questions asked after the lectures by would-be applicants and interviews by the members of the General Committee on Indoctrination. All this breaks the ice, all become acquainted, backgrounds are learned.

The alleged justification for all this is that "the medical schools of the United States have given little more than lip service to their responsibilities in this work." The responsibility is properly theirs.

The Army Medical Library

IN the one hundred and ten years of its existence the Army Medical Library has accumulated over 500,000 bound columes, not to speak of a vast amount of other items related to the cultural interests of medicine. Its *Index Catalogue* has played a vital part in recording and stimulating the progress of the science and art of medicine everywhere in the world. During the war, in spite of handicaps, it rendered extraordinary service to military medicine while developing at the same time its civil service to both profession and public. It has had some serious vicissitudes and setbacks in the course of its existence. Thus in 1933 it had a narrow escape from incorporation with the Library of Congress; during the depression Congress withdrew much of its support and the *Index Catalogue* had to be suspended for three years; in 1938 a bill to provide a new Library and Museum Building was killed; in 1941 Congress passed a bill authorizing a new Library and Museum to be permanently located on Capitol Hill—and then came the war with Japan and the dashing of hopes.

But now a new Army Medical Library building occupies a definite place among the projects outlined by the Fine Arts Commission of the District of Columbia as a part of its $400,000,000 postwar program.

This great power house of medicine has a vast influence on scientific advance; with adequate space, facilities and services to

—Concluded on page 170

OXIDASE AND AVIATION

Paulo Seabra

Fellow, National Academy of Medicine
Rio de Janeiro, Brazil

Some years ago I established a method to express the power of the blood in leukocytic oxidase[1]. This index was soon found to oscillate under certain conditions [2][3][4][5][6][7] and later on I was able to prove that in addition to its classic rôle in the organic defense, the neutrophil carries its oxidase to the red cell according to a true physiological correlation[7].

Now I shall sum up the points in which oxidase seems to me of interest for aviation.

The effusion of oxidase from the neutrophil and eosinophil toward the red cell occurs in a physiologic rythm depending on the barometric depressions that are normally observed twice every day. When the decrease of pressure is very quick and strong, however, as it is when a plane gets to high altitudes, the effusion of leukocytic oxidase is accomplished in such a high degree that I have called it "paroxystic hypereffusion"[7].

We have to deal with two different aspects of the matter: a) the consequences of oxidase exhaustion in the granulocyte, and b) the consequences of the sudden increase of the oxidase level in the plasma.

a) *Consequences of the Oxidase Exhaustion in the Granulocytes*

By placing a monkey in a decompression chamber twice, first exposing it to a low pressure corresponding to an altitude of 1,750 meters (5,577 feet) and afterwards to a low pressure corresponding to 8,700 meters (28,543 feet), I found that the neutrophils of the animal had undergone a paroxystic hypereffusion, so that they were left empty of oxidase.

Testing several flyers in experimental flights—thanks to the cooperation of the F.A.B. (Brazilian Air Force)—I found that an identical paroxystic hypereffusion already occurred in them at 3,500 meters (11,480 feet) or even earlier. The average oxidase in 100 neukocytes at 3,000 meters (9,842 feet) falls from 170 to 100. On several days the blood returned to normal after the flight, but among the daily flying men some had granulocytes without oxidase before going up in the morning. (See Fig. 1-B and 2-B). In both microphotographs "A" means blood of men who never flew. Blood sample of Fig. 1 was taken at Belo Horizonte and that of Fig. 2 at Rio de Janeiro. Both samples A-B were repsepctively drawn at the same moment, stained together* and taken on the same photographic plate, with equal exposure, development and subsequent magnification.

We see that in normal blood the neutrophils are filled with oxidase, whereas the red cells are almost invisible. In daily flying men, however, all the oxidase has

1) Seabra, Paulo.—Indice de Oxidas.—Bol. Acad. Nac. Med., Rio de Janeiro, Dec., 1939.
2) Pessanha and Lins.—Indice de Oxidase Seabra no Diabetes Mellitus.—Impr. Médica, 18:343, 1942.
3) Gomes, Olimpio.—Indice de Oxidase Seabra na Tuberculose Post-primaria do Adulto.—Rev. Bras. Tub., 11:84, 1942.
4) Coelho, Oswaldo, and Lins Filho, Waldemar.—O Indice de Oxidas Seabra na Fisiologia do Vôo de Altitude.—Impr. Médica, 19:360, 1943.
5) Echave, Dionisio.—Relação entre o Indice de Oxidase Seabra e a Cupremia Normal e Patológica.—Impr. Med., 20:362, 1944.
6) Lins Filho, Waldemar, and Magalhães Braga, Murilo.—O Indice de Oxidase Seabra no Trabalho Mental.—Paper awarded a prize by the Nat. Acad. of Medicine, Rio de Janeiro. Not yet published.
7) Seabra, Paulo.—Oxidase in Biology and in Flying Research.—Medical Times, Dec., 1943.

* The staining process (called "Loele-Seabra Method" by the National Academy of Medicine, Rio) is the following: Thin smears are dried in the open air for at least 2 hours. Fix in formol vapors for 10 minutes, placing the slides vertically into a vessel containing a crystallizer with 20 cc. formalin dissolved in 40 cc. distilled water. Cover smears with "mordant," leaving thus for 15 minutes. Wash smears gently with distilled water for about 1 minute. Smears are covered with aqueous gentian violet for about 10 minutes. Wash under a very fine streamlet of distilled water for 5 minutes. Cover smears with aqueous basic fuchsin solution for 10 seconds. Wash again under a fine streamlet for 5 minutes. After each of these 3 washings tilt the slides vertically on filter paper in order to hasten the drying process—*Gentian Violet:* Dissolve 0.1 Gm. in 250 cc. distilled water; decant on the following day.—*Mordant:* Ammonium carbonate 0.8 Gm., a-naphtol 0.2 Gm., distilled water 400 cc. Let stand for one day in order to dissolve the reagents. Shake occasionally. Filter with glass wool on the next day. Use dark flask. The solution is ready for use after the 3rd day and keeps for 20 or 30 days, according to temperature. In ice box it keeps for a long time (until turning brown).

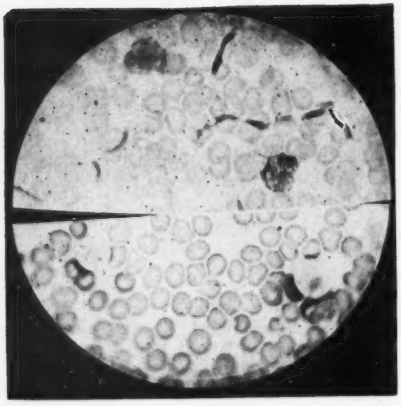


Fig. 1

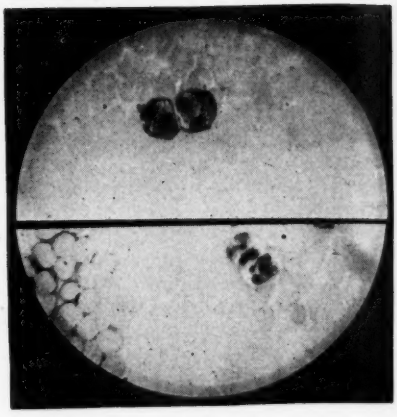


Fig. 2

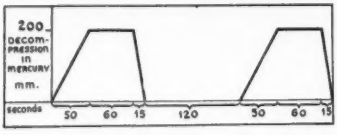


Fig. 3

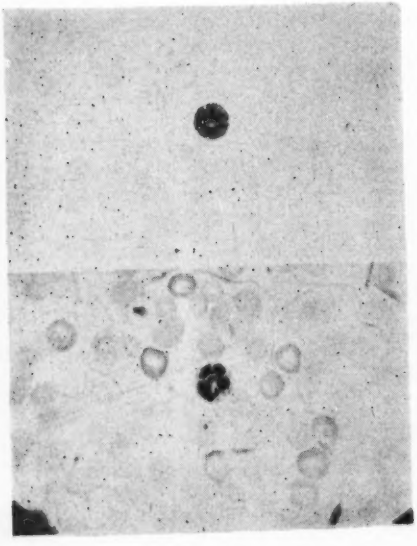


Fig. 4

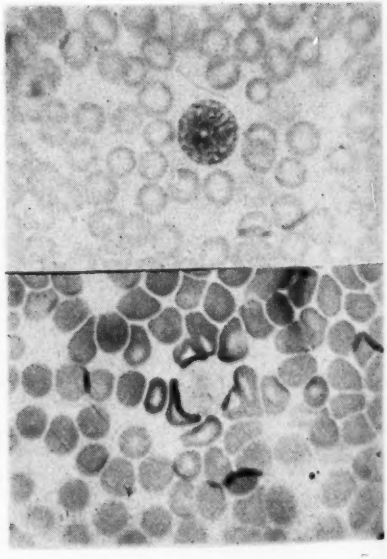


Fig. 5

left the leukocytes and has been adsorbed by the red cells, which for this reason become stained (Fig. 1-B), or the enzyme is found free, in the form of clots or agglutinating red cells (Fig. 2-B).

May I recall now that in my previous paper on the subject[7] I pointed out that the oxidase richness of the granulocyte is generally considered as an expression of its phagocytic organic defense capacity, and I therefore asked: does not such a persistent absence of oxidase in the leukocytes represent a danger?

Searching for an answer to this question, I made the following experiments: I took several lots of white mice and rats, every group formed by animals from the same brood and separated according to sex. Half of them were decompressed daily. To obtain comparable results I standardized the experimental decompression so that it corresponded to two successive flights of 1 minute each, with two minutes interval, whereby the low pressure reaches an equivalent of 2,500 meters (8,204 feet) of ascension (see Fig. 3).

Fig. 4 represents blood of the same white mouse. "A" means: before any decompression, and "B"—after the third daily decompression. The pictures were taken on the same photographic plate, which equal exposure and magnification, and are untouched. Note that the neutrophil appearing in "A" is so filled with oxidase that the nucleus is not visible, whereas the erythrocytes appear almost unstained. The hypereffusion of oxidase from the neutrophil on "B" gave visibility to its nucleus. The erythrocytes had already become dark, though unequally.

Fig. 5 represents blood of two rats from the same brood (80 days old). The smears were made on the same slide, stained together, taken on the same photographic plate with identical exposure and development. The only difference is that the rat "B" was submitted to daily decompression for the last 60 days. Observe the darkness of the erythrocytes of rat "B," thus expressing the richness in oxidase received from the neutrophils which, therefore, become poor in oxidase (1.9 to 1.3 as an average), many of them reaching even

GRAPH 1.

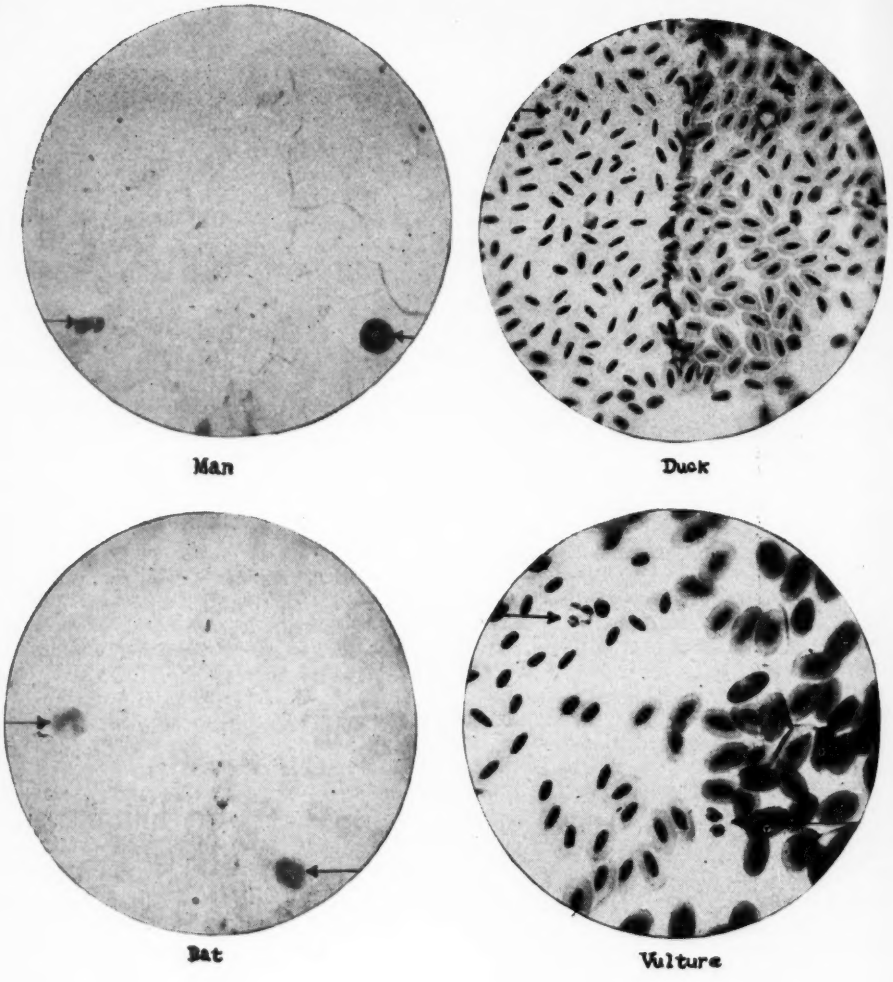
paroxystic hypereffusion, as the picture shows. The neutrophil on the picture is so far from normal that not even its nucleus is stained, as that found sometimes in daily flying pilots (Fig. 1-B).

The weight curves of the different tested groups are similar. One of these curves is reproduced in Graph 1, referring to a group of male rats whose decompression was begun when they were 3 weeks old. Further confrontation shall be made from the biochemical and histoloeic points of view as well as regarding resistance to infection.

Thus, the intense supply of oxidase—also called "respiratory enzyme"—to the red cells may perhaps have a vicarious effect which is not yet well explained: the younger flyers often look especially vigorous; decompressed rats also present at the beginning better weight than normal ones. However, this is only the first step—later on this advantage disappears.

b) *Consequences of the Sudden Increase of the Oxidase Level in the Plasma*

It occurred to me that the sudden oxidase invasion of the plasma (on its way to the red cells) might eventually produce glycolysis, and I found this to be true, according to the results of several experimental flights[7]. Number 4 of these flights is particularly demonstrative, for all the men in the plane had their leukocytic oxidase dropped down within the first 1,000 meters (3,280 feet) of ascension, except for one who was very stable; their glycemia also fell, with the exception of the same flyer†.



Frank C. Mann, in his chairman's address to the American Medical Association in 1944[8], pointed out that "a considerable amount of evidence has been accumulated from various sources which indicates that glucose is the main if not the only source of energy for the brain . . . the oxidative metabolism of the brain is diminished in hypoglycemia. This finding provides an explanation for the sequence of the development of the symptoms of hypoglycemia. The decrease of blood sugar affects various regions of the brain successively, beginning with the cerebral hemispheres and ending with the vital centers in the

8) Mann, Frank C.—Hypoglycemia and Restoration With Glucose.—J.A.M.A. 126:8, Oct. 21, 1944, p. 465.
9) Umber, F.—Deutsche Mediz. Wochenschr., Leipzig, 68:p. 261, 1942.

medulla. This definite order of the symptoms is predicated on the basis that the lack of glucose affects the brain cells having the highest rate of metabolism first. In this connection it should be noted that other factors also are involved because the symptoms of hypoglycemia may develop, under certain conditions, at a blood sugar value which, though decreased from its immediate previous value, is above the normal level."

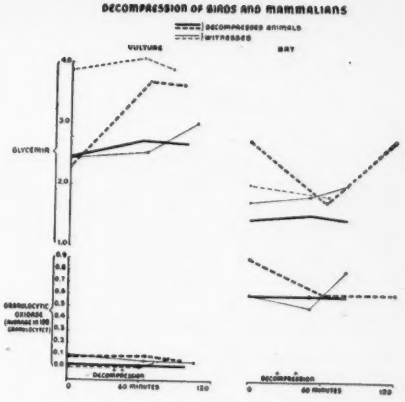
On the other side, in Germany at war, Umber reports that in hypoglycemia the visual disturbances may precede the other symptoms[9].

It was on account of these facts that I suggested that flyers be provided with supplies of dextrose candy until further research work concerning oxidase stability was accomplished.

Now, there is another fact I wish to report in connection with the matter. I thought of the self-confidence and serenity with which birds get rapidly to high altitudes such as 1,000 meters (3,280 feet) or more, and remain there. One would expect them to show physical disturbances; if not, then some natural adaptation protects them. This is what really does happen.

See in Fig. 6 blood of two mammalians (man and bat) and two birds (duck and vulture). In each of the microphotographs the blood covering half of the field was treated with a-napthol, the oxidase indicator, and the other half was not. Observe that in the mammalians the difference between the neutrophils with or without a-naphtol is remarkable, whereas there is practically no difference among the red cells. The reverse occurs in the birds. On the border of the region treated with "mordant" the difference in the blood of birds is particularly obvious, because parts of some erythrocytes did not receive the a-naphtol; these fractions of cells consequently are unstained by the gentian violet that covered the whole smear. Therefore, in birds the blood oxidase is found in the erythrocytes.

† Before and after this experimental flight the men showed the following glycemia values: 84.03—85.37; 96.61—93.02; 95.23—87.33; 81.63—75.18; 88.10—71.42.



For this reason, no hypereffusion occurs during the flight of birds, because their oxidase already is in the red cells.

Where there is no oxidase hypereffusion, there is also no glycolysis. This supposition was confirmed by me in experiments with black cultures (*Coragyps atratus foetus*). Graph 2 is an example of the experiments made in this line. Both decompressed and not decompressed vultures presented a rise of glycemia, probably on account of their struggling during the experiment[10].

Besides the human being there is also the bat that uses flying, even as its normal locomotion, though only near the ground. It is indeed interesting to investigate the oxidase mechanism of this other flying mammalian.

The bat (*Molossus rufus*) has the same troubles that man has if decompressed, that is, suffering hypereffusion and, consequently, glycolysis. The example given in Graph 2 is remarkable because one bat shows glycolysis and the other does not; also, the latter did not drop its oxidase level, possibly because it was already low before decompression. This difference in the amounts of leukocytic oxidase may be due to the fact that some of the bats tested by me perhaps used to go up the mountains in carriages of the nearby railway. So I gave these bats a rest in a dark cage for

—Concluded on page 166

10) Duncan, G. G.—Diseases of Metabolism. 1942, p. 29.

ONE HUNDRED AND FORTY-TWO OPERATIONS FOR BILIARY DISEASE FROM JANUARY 1, 1943 TO JANUARY 1, 1946

Peter J. Dulligan, M.D., F.A.C.S., Brooklyn, N. Y.

WHEN the question arose as to the selection of a subject for presentation to this society I thought perhaps our experience in the management and results of 142 cases of biliary surgery over the past three years might be of interest for the following reasons: The management of acute gallbladder has been in much controversy over the past few years. The general practitioner plays a large part in its management. This hospital is about comparative in size to those in which most of you work; also comparative in the number and type of internes, nursing service, laboratory facilities, anesthesia and anesthetists; in substance, a hospital of about three hundred beds without endowment for research which must be for the most part financially self-sustaining. In addition, while a little over eighty per cent of these operations were performed by four surgeons, in toto they comprise the work of fourteen. The complete management of each case represented the individual judgment of the operator.

142 Cases of Consecutive Biliary Operations St. Mary's Hospital 1943-1945

Chronic Cholecystitis	115
Acute Cholecystitis	24
Adenocarcinoma	1
Choledocholithiasis (Prev.-Ectomy)	2

Operations for Chronic Cholecystitis

Cholecystectomy	110
Cholecystostomy	5
Mortality Cholecystectomy	4

Operations for Acute Cholecystitis

Cholecystectomy	7
Cholecystostomy	17

Operations for Choledocholithiasis

Choledochostomy Plus Cholecystectomy	16
Choledochostomy Plus Cholecystostomy	1
Choledochostomy Alone (Prev.-Ectomy)	2

Anesthesia

Spinal (Simple and Continuous)	65
Nitrous Oxide-Oxygen-Ether	58
G.O.E. Plus Local Infiltration Novo...	15
Cyclopropane	2
Avertin	1
Avertin Plus Gas-Oxygen	1

Concomitant Operations

Appendectomy	16
Ovariorraphy	1

Complications

Wound Infections	21
Cardiac Involvements	4
Atelectasis	4
Bronchopneumonia	1
Thrombophlebitis	1
Hyperpyrexia	1

AGE GROUPS

20–29	8
30–39	28
40–49	35
50–59	45
60–69	17
70–79	9

CASES

Case #67476 (Expired)
Age—63 Female
Signed out as
- **Chronic cholecystitis**
- **Peritoneal adhesions—postoperative**
- **Biliary dyskinesia**
- **Acute myocardial infarction**
- **Diabetes mellitus**

Cholecystectomy performed under gas-oxygen and local field block. Operating time—1 hour 15 minutes.
Five days postoperatively at 3:30 A.M. the patient was nauseous but did not vomit. At 4:30 A.M. the patient had apparently died in her sleep.

Case—62391
Age—45 years. Dock Builder, male. Died 24 hours after operation.
Signed out as:
- **Biliary fistula**
- **Hyperpyrexia. Liver death**

Cholecystectomy performed on 4-21-'43. Three months previously a cholecystostomy had been done and a persistent biliary fistula resulted.

Case—67793. Admitted 3-5-'44 and expired 3-13-'44.
Age—57 years. White female
Signed out as:
- **Acute cholecystitis with cholelithiasis**
- **Acute myocardial infarction**

Operation—Cholecystectomy. Died 5 days postoperative.

Case—65303
Age—70 years. White female
Signed out as:
- **Papillary Adenocarcinoma of the Gallbladder**
- **Diabetes mellitus**

Operation—Subtotal cholecystectomy Choledochostomy
Expired 8 days postoperative.

MEN working in hospitals such as ours must depend greatly on the experiences emanating from teaching and en-

Read before the Scientific Session of the Associated Physicians of Long Island, held January 29th, 1946, at St. Mary's Hospital, Brooklyn, N. Y.

dowed clinics where endowment for research, case volume and standardization of technical procedures are possible. We must evaluate these contributions and technical methods to determine to what extent their application will correct our weak spots. Consequently, as master surgeous present new and improved procedures we are often hesitant and reluctant to accept them, resulting many times in delays that are costly and embarrassing. On the other hand, unless we are convinced that a given method is sound and that we possess the technical skill to carry it out, one is justified in being cautious.

For those of us who can go back thirty or more years we recall when an acute gallbladder was treated as a surgical emergency. Immediate operation and cholecystostomy were standard procedures. Most cases were admitted late, suffering from complications incident to the disease, and the death rate was high. In addition recurrences were frequent and reformation of stones was common. In an effort to correct this, cholecystectomy was advocated and in large measure carried out, with such a prohibitive mortality that it had to be abandoned. Then came the procedure of allowing the acute case to become chronic and performing a cholecystectomy at a time when the condition of the patient was considered safe and favorable. For a number of years this method of gallbladder management was recognized as sound, the only exception being a case that did not progress favorably, which case was submitted to cholecystostomy. Improvement in preoperative and postoperative treatment and improvement in technical skill and anesthesia resulted in lowering the mortality and morbidity to such a point that it is, as of to-day, the accepted method of treatment by most surgeons.

WE are now swinging back to cholecystectomy in the acute stage. The advocates of this method of management are on solid ground up to a point, and I wish to designate where I think that point ends. We are all aware that most surgical deaths arise from the complication of the disease rather than the disease itself. We all know that the tremendous annual death rate from acute appendicitis is due to the complications rather than the disease. Likewise, we all know the complications of the acute gallbladder are the measuring factors in its mortality. The advocates of early operative interference correctly point to gangrene, rupture, abscess formation, toxic cholangitis, liver damage, cardiac, renal and pulmonary complications as the main factors in the death rate of this disease. The solution, we wholeheartedly agree, is early recognition of the disease by the general practitioner and early surgical interference, with cholecystectomy the procedure of choice. However, as we lack the specific clinical aids to accurately measure the degree of pathology present at any given time, the operator will many times be confronted with such a difficult mechanical problem, due to advanced pathology, that a cholecystectomy becomes hazardous, unsatisfactory and too often fatal.

Even the most radical now admit that after three or four days there is likelihood in many cases of the pathology being so advanced that a cholecytectomy should not be attempted, leaving the choice of symptomatic treatment or an operation with drainage. Cholecystectomy is undoubtedly the operation of choice and should always be done where circumstances and conditions warrant. Cholecystostomy in the elderly patient suffering from some concomitant disease often is the only safe, logical and sensible procedure so far as I am concerned. If, consequently, we concede that early operative interference can and will prevent many serious complications, let us not forget that cholecystostomy will often be the safest way to accomplish this end. In many elderly debilitated individuals it may be all that can or should be done. Likewise, in those cases where the extent of the pathology is great and cholecystectomy is hazardous, cholecystostomy should be performed and a secondary removal done at a time when complications have subsided and the condition of the patient warrants. The surgical sailor, who routinely submits all cases suffering from advanced pathology to cholecystectomy, will need more than a compass to guide his patients safely home.

—Concluded on page 173

THE BURSAE MUCOSAE ACCORDING TO MONRO

EDINBURGH followed Leyden and Paris as a great center of anatomic teaching. There the three Alexander Monros, father, son and grandson, occupied the professorship in the University in succession, for a period of one hundred and twenty-six years (1720-1846). It was a dynasty. Among the many remarkable works that they produced, that on the seventy pairs of bursae by Alexander *secundus,* published in 1788, is especially noteworthy as the first full description of these structures, now figuring so importantly in the literature. His name is also immortalized in the foramen of Monro (f. interventriculare), affording communication between the lateral and third ventricles of the brain, described by him in a paper read in 1764. He was the ablest of the three Monros.

The bursae, before Monro, had been largely slighted, or overlooked, except by Bernhard Siegfried Albinus of Leyden (1697-1770), who, in his *Historia Musculorum* (1734), named these structures the bursae mucosae and described sixteen pairs.

We have said that the dynasty ended in 1846, so this year, 1946, marks the centenary of its ending and makes this article appropriate, though there is no danger of forgetting our indebtedness to the Monros, so indelibly are they engraved upon the tablets of medical memory.

The title of the second Monro's work on the bursae, somewhat condensed, is "A Description of all the Bursae Mucosae of the Human Body, their Structure . . . Accidents . . . and Diseases . . . and . . . Operations for their Cure." There are sixty pages of reading text and ten tables, a few details of which we have omitted. Each page is twelve by eighteen inches in area, permitting life-sized representations. The beautiful drawings were made by the painter, T. Donaldson, and the fine engraving was done by G. Cameron. The work was published by Elliot and Kay, of Edinburgh and London. Our illustrations are adapted from the originals and highlight only the bursal topography and relevant captions, omitting much of Monro's general anatomical data.

Those adept in the fine points of bursal anatomy can determine for themselves any disparities in Monro's work as compared with such of our contemporary authorities as Sobotta, Spalteholz, *et al.,* and with their own investigations.

Note.—The Monro dynasty recalls another family several members of which were outstanding anatomists in Germany for nearly a century—that of the Meckels, father, son, and two grandsons. First of the line was Johann Friedrich, the elder, who, when he graduated at Göttingen in 1748 at the age of twenty-four, presented an inaugural dissertation on the fifth nerve (Meckel's ganglion). He became professor of anatomy at Berlin in 1751, at the age of twenty-seven. His son Philipp Friedrich Theodor became professor of anatomy at Halle in 1779 and did much important and original work. His son, Johann Friedrich, of Halle, called the yonger Meckel, became the greatest living comparative anatomist; he was the discoverer of Meckel's diverticulum. The younger brother of this Johann, August Albrecht, became professor of anatomy at Bern in 1821.

It will be seen that Alexander Monro, *secundus,* he of the bursae and foramen, was a contemporary of Johann Meckel the elder. Indeed, he was a student under Meckel at Berlin.

A. C. J.

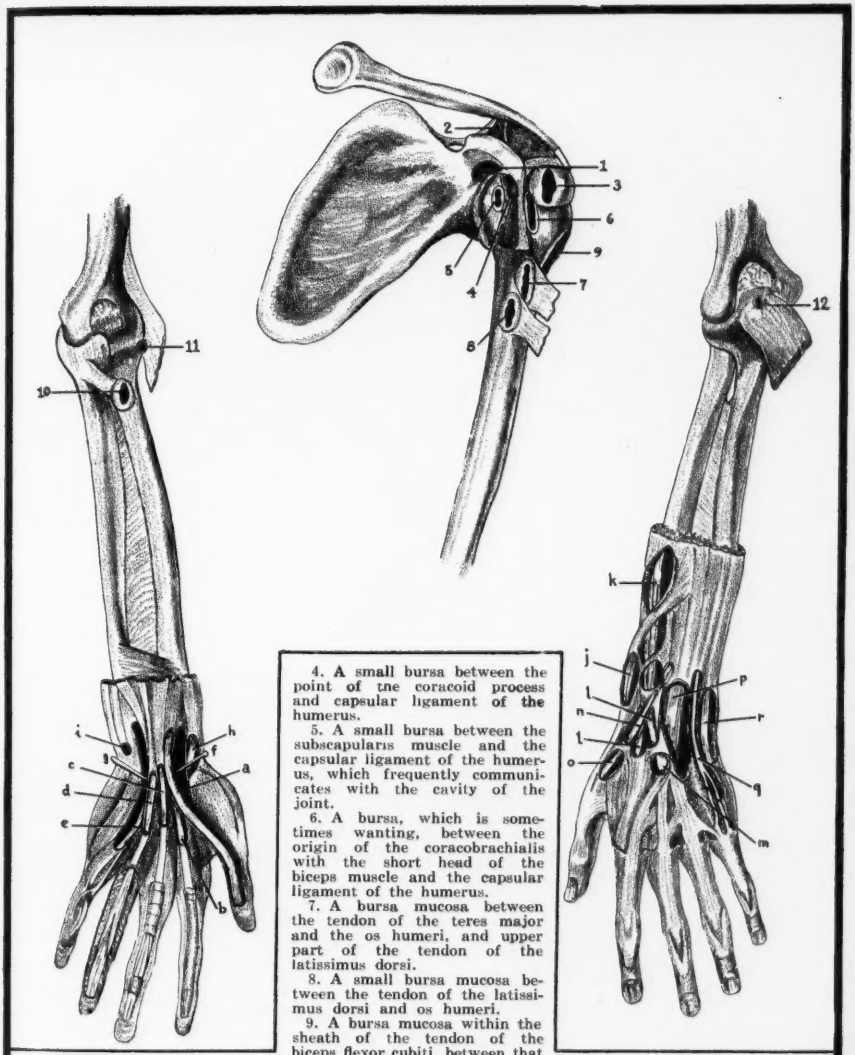


Plate I

1. A bursa under the tendon of the subscapularis muscle which communicates with the cavity of the joint of the humerus.

2. A bursa mucosa interposed where the clavicle is tied to, and plays on, the coracoid process.

3. A large bursa mucosa between the acromion and ligament and the capsular ligament of the humerus.

4. A small bursa between the point of the coracoid process and capsular ligament of the humerus.

5. A small bursa between the subscapularis muscle and the capsular ligament of the humerus, which frequently communicates with the cavity of the joint.

6. A bursa, which is sometimes wanting, between the origin of the coracobrachialis with the short head of the biceps muscle and the capsular ligament of the humerus.

7. A bursa mucosa between the tendon of the teres major and the os humeri, and upper part of the tendon of the latissimus dorsi.

8. A small bursa mucosa between the tendon of the latissimus dorsi and os humeri.

9. A bursa mucosa within the sheath of the tendon of the biceps flexor cubiti, between that tendon and the humerus.

10. A bursa mucosa between the tendon of the biceps and tubercle of the radius.

11. A small bursa between a tendon common to the extensor carpi radialis brevis and extensor digitorum communis and the round head of the radius.

a. A very large bursa mucosa for the tendon of the flexor pollicis longus.

b, c, d, e. Four short bursae mucosae on the fore part of the tendons of the flexor sublimis of the fingers.

f. A large bursa mucosa behind the tendon of the flexor pollicis longus, between it and the fore part of the radius and capsular ligament of the wrist and os trapezium.

g. A large bursa behind the tendons of the flexor digitorum profundus, and on the fore part of the end of the radius and fore part of the capsular ligament of the wrist.

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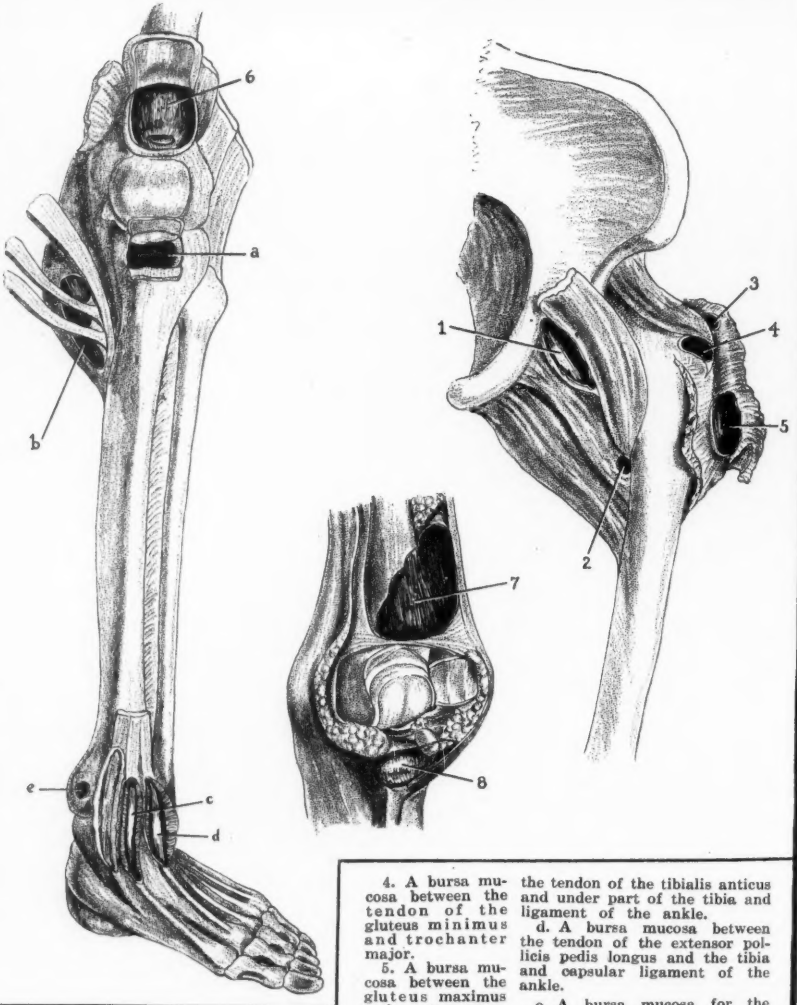

Plate II

1. A very large bursa mucosa between the iliacus internus and psoas magnus and the capsular ligament of the thigh bone.

2. A bursa between the tendon of the pectineus and thigh bone.

3. A small bursa mucosa between the gluteus medius and trochanter major. Behind it the tendon of the pyriformis is inserted.

4. A bursa mucosa between the tendon of the gluteus minimus and trochanter major.

5. A bursa mucosa between the gluteus maximus and vastus externus.

6. A large bursa mucosa behind the tendon of the extensors of the leg.

a. A bursa mucosa behind the ligament which joins the patella to the tibia.

b. A large bursa mucosa behind the tendon of the sartorius, and behind the tendons of the gracilis and semitendinosus, covering the inner fore part of the tibia.

c. A bursa mucosa between the tendon of the tibialis anticus and under part of the tibia and ligament of the ankle.

d. A bursa mucosa between the tendon of the extensor pollicis pedis longus and the tibia and capsular ligament of the ankle.

e. A bursa mucosa for the tendons of the extensor digitorum communis longus, between them and the tibia and ligament of the ankle.

7. A section of a large bursa mucosa placed between the tendon of the extensores cruris and the fore port of the high bone.

8. A bursa between the ligament which joins the patella to the tubercle of the tibia and the upper fore part of the tibia.

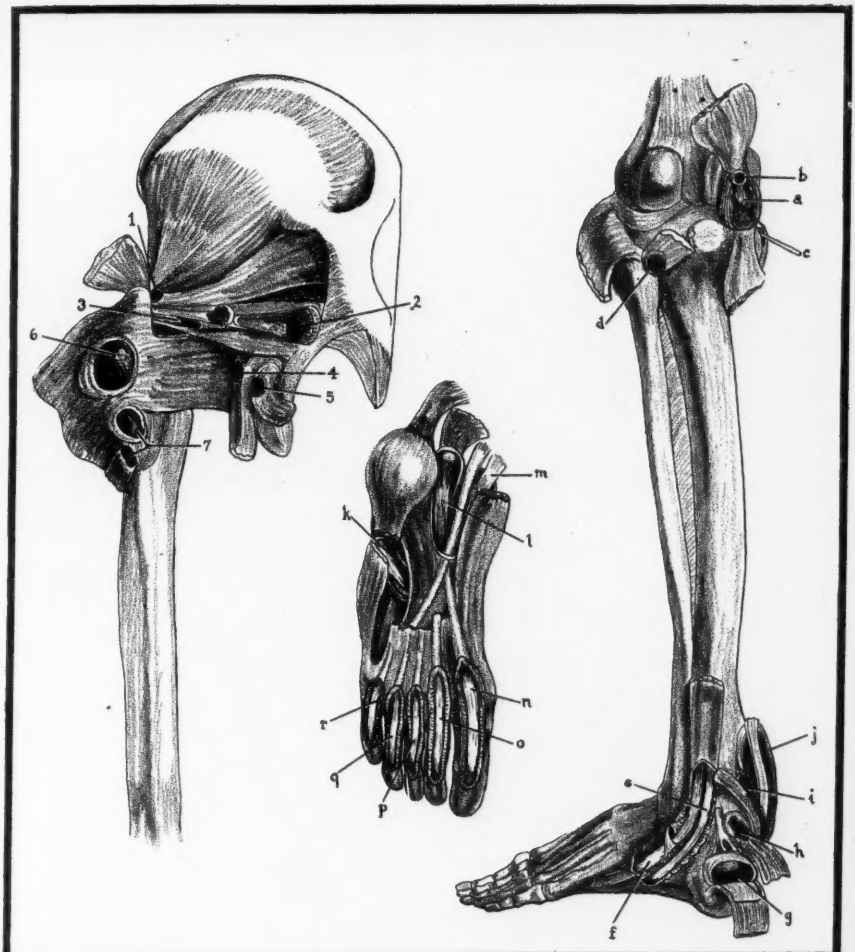

Plate III

1. A bursa mucosa between the gluteus medius and pyriformis.
2. A bursa mucosa between the obturator and os ischium.
3. A probe put into an oblong bursa mucosa, which is continued to a point between the obturator internus, gemelli, and capsular ligament of the thigh bone.
4. A small bursa mucosa.
5. A small bursa mucosa.
6. A large bursa mucosa between the tendon of the gluteus maximus and root of the trochanter major.
7. Two small bursae mucosae between the tendon of the gluteus maximus and thigh bone.

a. A bursa mucosa between the tendons of the semimembranosus and gastrochnemius and the ligament of the knee.

b. A small bursa within the bursa a, from which there is a passage into the cavity of the joint of the knee.

c. A bursa mucosa between the inner side of the tendon of the semimembranosus and the lateral internal ligament of the knee, from which there is a passage making a communication with the joint of the knee.

d. A bursa under the popliteus muscle communicating with the cavity of the joint of the knee.

e. A large bursa mucosa common to the tendons of the peronei muscles.

f. A bursa proper to the tendon of the peroneus brevis.

g. A bursa mucosa between the tendon Achillis and os calcis.

h. A bursa mucosa between the flexor pollicis longus and the os calcis.

i. A bursa mucosa between the flexor digitorum longus communis and the tibia and os calcis.

j. A bursa mucosa between the tendon of the tibialis posticus and the tibia and astragalus

k. Another bursa mucosa for the tendon of the flexor pollicis longus.

l. A bursa mucosa common to

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BURSAE MUCOSAE

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h. An oblong bursa between the tendon of the flexor carpi radialis and os trapezium.

i. A very small bursa between the tendon of the flexor carpi ulnaris and os pisiforme.

12. A small bursa between the tendon of the triceps extensor cubiti and the olecranon.

j. A bursa between the tendon of the abductor pollicis longus of Albinus and the radius.

k. A large bursa common to the two extensores carpi radiales.

l. Another bursa common to the extensores carpi radiales.

m. A third bursa at the insertion of the tendon of the extensor carpi radialis brevior.

n. An oblong bursa for the tendon of the extensor pollicis longus; and which, at its fore part, communicates with the bursa 1.

o. Another bursa for the tendon of the extensor pollicis longus, between it and the metacarpal bone of the thumb.

p. A bursa mucosa between these tendons and the ligament of the wrist.

q. Another bursa for the extensor of the little finger.

r. A bursa mucosa between the tendon of the extensor carpi ulnaris and ligament of the wrist.

BURSAE MUCOSAE

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the tendon of the peroneus pedis longus and the tendon of the flexor digitorum pedis communis longus profundus.

m. The tenden of the tibialis posticus in its bursa.

n, o, p, q, r. Five bursae mucosae of the flexor tendons slit open, and which begin a little above the first joint of the toes, and extend to the root of the third phalanx or insertion of the tendons.

OXIDASE AND AVIATION

—Concluded from page 159

eight days. After this period their blood returned to normal, exactly as that of man some days after flying: showing increased leukocytic oxidase and more uniformly stained red cells. In chart 1 the only bat that did not experience a rise in its granulocytic oxidase is the one that had the highest rate at the beginning. Vultures do not increase oxidase in the granulocytes while resting, though they show increase in weight.

For the conclusion of this comparison between vultures and bats, see Graph 2 showing high glycemia and low granulocytic oxidase in the first and exactly the reverse in the latter.

In finishing this report, I wish to mention that in the performance of some of the tests I was assisted by First Lieut. Coutinho Marques, who has been appointed by the Brazilian Air Ministry to follow my research on the matter. The glycemia tests were made with Hagedorn-Jensen's micromethod by Dr. Clotilde Souto Maior, first assistant of Professor Capriglione and a pupil of Professor Houssay of Buenos Aires. The oxidase evaluations were performed with my colorimetric schedule, where the degrees of blue appearing in the granulocytes are classified from 1 to 6[10].

Granulocytic Oxidase
Influence of Rest

Animal	Oxidase per 20 Granulocytes: When caught	After 8 days of rest in a cage
Mammalians:		
Bat no. 1	14.0	17.5
2	14.5	18.0
3	15.5	15.5
4	15.0	22.5
Birds:		
Vulture no. 1	0.02	0.0
2	0.0	0.0
3	0.0	0.0
4	0.0	0.0

Conclusions:

1—Regarding oxidase, the flight approximates the human blood to that of birds.

2—This fact involves immediate and remote consequences whose control requires further investigation.

Rua Ferreira Pontes, 158.

JAMES CARSON, PIONEER IN THE SURGICAL EVOLUTION OF TUBERCULOSIS THERAPY

Most of us are so concerned with the present that the debt we owe to the past is frequently forgotten.

—H. E. Essex
Proceedings Staff Meetings
***Mayo Clinic* 12:668, Oct. 20, 1937.**

THE idea of forcing air into a wounded chest, or one operated upon for empyema, with a bladder and pipe, goes back to Hippocrates. But the idea was never acted upon.

In 1679 de Blegny reported a cure of tuberculosis following a sword thrust into the chest. In 1696 Baglivi reported a similar case and expressed the old Hippocratic idea that there might be value in an artificial pneumothorax.

Bourru, Librarian of the Faculty of Medicine of Paris, in 1770 discussed very intelligently the possibilities of collapse therapy. Maygrier, in 1820, called attention to Bourru's suggestion, but only to condemn it.

Negative intrapleural pressure was understood by Valsalva, Morgagni and Haller, but it remained for Dr. James Carson of Liverpool to show, in 1919, through experiments on rabbits, how the lungs' aspiratory force could be measured and perhaps taken into account in the treatment of tuberculosis *(Essays Physiological and Practical)*.

In 1821, Carson, in his *Lesions of the Lungs,* a triumph of scientific reasoning, made these classical statements:

> "To obviate these dangers [too sudden collapse, with possible suffocation from the passage of pus or blood into the windpipe] the plain and simple means are to reduce the lungs thus situated to a state of collapse by degrees only. This might be accomplished by admitting a small quantity of air into the cavity of the chest at one time, and allowing an interval to exist between the successive admissions, which may be necessary before the lungs shall be brought to a state of complete collapse.
>
> ". . . It has long been my opinion that if ever this disease pulmonary tuberculosis is to be cured, and it is an event of which I am by no means disposed to despair, it must be accomplished by mechanical means, or in other words by a surgical operation."

THE first of Carson's two attempts to establish an artificial pneumothorax in tuberculous patients was made in 1822 in association with Bickersteth, a Liverpool surgeon. Both attempts were unsuccessful because of adhesions.

What Started Carson on his epochal quest, destined to eventuate in the new surgical dispensation in the evolution of tuberculosis therapy? It appears that a patient of his, a tuberculous hodcarrier, suffered a spontaneous pneumothorax as a result of severe exertion. The dyspnea, pain and shock were sudden and severe. Carson understood the significance of the signs: immobility, marked enlargement, displacement of apex beat, absent fremitus and tympanitic note. At that early period of the nineteenth century Auenbrugger's technique was available but Laennec was only beginning to experiment with his stethoscope. Well, the patient surprised Carson by not only recovering from the collapse but by a steady improvement in his tuberculosis. So Carson, with fortune favoring his prepared mind, as Pasteur would have said, did some heavy original thinking. The result was his clear exposition in 1919 of the principles involved.

CARSON trained for the ministry but was graduated in medicine at Edinburgh in 1799. In 1837 he was elected to the Royal Society in recognition of his paper *On the Elasticity of the Lungs (Phil. Trans.* 110, 29:44).

The doctor came into great prominence in 1808 on account of his successful medical defense of Charles Angus, a Liverpool merchant, who was tried for the alleged murder of a Miss Margaret Burns under

circumstances of peculiar atrocity. A verdict of "not guilty" was rendered. Carson was opposed by a flock of eminent medical witnesses for the Crown. In this connection he published in 1808 *Remarks on a late Publication entitled A Vindication of the Opinions delivered in Evidence by the Medical Witnesses for the Crown on a late Trial at Lancaster.* So the battle did not end with the trial. The autopsy had revealed a perforated stomach and peritonitis, which the witnesses for the Crown ascribed to a corrosive poison. Carson, citing cases from the literature all the way back to Morgagni, contended that the conditions found could have been due to other causes. The Army Medical Library, in October, 1945, very kindly sent to the writer a microfilm of Carson's own manuscript, written in long hand after the trial, rebutting a published statement by the witnesses for the Crown. The documents are acrimonious debates of able minds invoking the best medical knowledge of the day. Carson's satire and frontal attack are reminiscent of the formidable Dean Swift himself. The case held great public interest for a long time. Perhaps we have here a good murder theme for some modern publisher catering to the devotees of the literature of crime—or for Hollywood.

Other publications of Carson, suggestive of the man's wide range of interests, were as follows:

Reasons for Colonizing the Island of Newfoundland. 1813.

A Letter to the Members of Parliament on the Address of the Inhabitants of Newfoundland to the Prince Regent. 1813.

An Enquiry into the Causes of the Motion of the Blood. 1815 (second and enlarged edition under the title of *An Enquiry into the Causes of Respiration,* etc. 1833).

A New Method of Slaughtering Animals for Human Food. 1939.

PROMPTLY following Carson's publication of 1819 came John Davy's animal experiments to determine the behavior of various gases in the pleura (1823).

In America, Strudwick, of Hillsboro, North Carolina, discussed artificial pneumothorax in 1824. He condemned it. Incidentally, he remarked that Physick, the noted Philadelphia surgeon, had suggested the method about 1812.

In 1934, F. H. Ramadge, in London, is alleged to have operated both successfully and unsuccessfully. In one case there was a later autopsy showing healing.

Daniel McRuer, of Bangor, Maine, in 1835 strongly advocated artificial pneumothorax in tuberculosis because of inferences he had shrewdly drawn from the clinical behavior of a case of empyema.

Hughes, in 1844, advocated compression of the lung in tuberculosis.

F. von Herff, a German, alluded to the idea in 1846.

The *Boston Medical and Surgical Journal,* in 1848, strongly favored experimentation in this field.

Walter H. Walshe, in 1860, noted the occasional good effect of accidental perforation on pulmonary tuberculosis, but decried the idea of producing artificial pneumothorax with a curative aim.

Douglas Powell, in 1869, collapsed a large cavity in a case of tuberculous empyema by inducing an artificial pneumothorax. "He stated that the position of the heart and mediastinum was maintained by balanced negative pressure on each side, and that in pneumothorax the lung was drawn to the other side and not pushed. He recognized the presence of positive pressure in valvular pneumothorax, and advocated withdrawing some of the air. J. Davy (1823) and James Jackson (1829) had both done the same." (Lawrason Brown.)

Over the years many data bearing on the effects of spontaneous pneumothorax and pleuritic effusion had accumulated and lung surgery was beginning. Some of these data, in addition to those already cited, had been furnished by Houghton (1832), Stokes (1837), Bach (1843), Woillez (1853), Späth (1850), Richter (1856), Traube (1871), Czernicki (1872), Vigier (1873), Pernet (1878), and Toussaint (1880). It is not to be inferred, however, that all these observers favored artificial pneumothorax.

CARLO FORLANINI, in 1882, influenced chiefly by Toussaint, and per-

haps unaware of Carson's work, began to lay new foundations for artificial pneumothorax. Other men were at work on the problem. R. W. Parker and Douglas Powell, in London, were early in this year injecting air with a special apparatus and using a manometer, but they seem to have been mostly concerned with empyema and pleural effusions. At this time Parker was using a needle instead of producing an open pneumothorax. In 1885, William Cayley and Pierce Gould did an unsuccessful open pneumothorax. Between 1884 and 1888 Potain operated on several cases and laid down some excellent principles, but it was only in cases where the pleura was already involved by effusion or empyema, or where a spontaneous pneumothorax had occurred. Forlanini made the first modern approach, that is, he began to treat pulmonary tuberculosis by artificial pneumothorax, using nitrogen filtered through cotton after finding that oxygen was too quickly absorbed. Forlanini enjoyed the collaboration of Riva-Rocci and Cavalero in the study of pulmonary ventilation and the chemistry of respiration in the course of his work. His first case treated successfully in the modern manner was a young girl with a normal left lung and a tuberculous cavity in the right. This was in 1894-5. The patient was cured and returned to her work.

Forlanini was actually subjected to ridicule. But as John Stuart Mill once said, truth, after rejection, is bound to reappear at a time when from favorable circumstances it escapes persecution until it has made such head as to withstand all subsequent attempts to suppress it.

The pioneer in America was John B. Murphy, who began this work independently in 1895, the same year in which Forlanini published his first favorable results. Mary Lapham and Joseph Pratt followed in 1909.

Forlanini not only used the method first but devised the best technique.

IN the light of the foregoing story, the remote, lonely figure of Carson, actually operating upon tuberculous patients with an extraordinary insight into the principles involved, is a fascinating one; and his failure did not distort his total perspective. He provides one of the most glamorous examples of original genius in the whole field of medicine.

A.C.J.

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CLIMATE AND THE ENERGY OF NATIONS

SYDNEY FRANK MARKHAM, in his *Climate and the Energies of Nations,* after noting the factors to which national success has been variously attributed—religion, race, pressure of population, diet, laws, language, the emergence of great men, trade routes, and just luck by way of coal and iron resources—undertakes very ably to show that in addition to these factors we must take into more serious account climate and climatic controls.

Markham is convinced that one of the basic reasons for the rise of a nation in modern times is its control over climatic conditions: "that the nation which has led the world, leads the world and will lead the world, is that nation which lives in a climate, indoor and outdoor, nearest to the ideal, provided always that its numbers are large enough to resist invasion by its rivals. Civilization to a great degree depends upon climate control in a good natural climate."

Men will work best and most efficiently when there is a daily temperature average of between 60° and 76°, with a humidity range from 40 per cent to 70 per cent.

"The ideal climate is one which, while never or very rarely passing the upper 76° limit, yet does not fall so low as to demand great efforts to bring indoor temperatures up to 60° or 70°, whichever is deemed the more desirable."

Throughout history it might be said that

civilizations develop where a people enjoy for the moment the best natural climate and have the greatest control over it (suitable clothing, good housing, efficient heating systems, air conditioning, etc.).

"In short," says Markham, "the regions with an ideal climate (i.e., a climate that can easily be controlled all the year round so as to produce ideal indoor conditions and that permits outdoor exercise on most days), possessing at the same time cheap and efficient means of climate control, are New Zealand, North-west Europe, and various portions of North America, South America, and Australia. New Zealand has a decided superiority over every other country in having an easily controlled climate and adequate sources of artificial heat available at moderate cost."

The early civilizations—Phoenician, Egyptian, Assyrian, Babylonian, Persian, and Indian—arose where the 70° annual isotherm approximately coincided with moderate humidities and with cultivable areas.

When the leadership of civilization left the regions along the 70° annual isotherm, to flower in Greece and Rome, it was because of the discovery of the hypocaust system of heating, whereby the floors and walls of buildings were heated by lignite from a central source. The improvement upon the open fire or brazier made the transition possible.

In England, beginning about A.D. 1070, it was the introduction of flues and chimneys in conjunction with Norman masonry, the glazed window, the grate, and the rediscovery of brick-making that led to the British "coal civilization."

What is Markham's prognosis for the United States?

"It would seem that in the future the South and the north-west interior and to a less degree the centre of the country will be fruitful in numbers, but relatively static in civilization. . . . I think it is beyond question that the Pacific states will bound ahead both in civilization and numbers. Indeed, before this century is out, the Coast states may have a population of 20 millions and Los Angeles may become the largest city in the United States. The whole of this area is being helped not only by a superb natural climate, but by its ready and intelligent welcome of air conditioning."

The films of the Pacific states "influence world habits and thought, their novels and songs appeal to the whole of the English-speaking world, their fashions are copied from Vancouver to Valparaiso, and their planes are seen in all five continents. Civilization moves on."

Markham concludes as follows:

"Whilst optimum climatic conditions and controls produce men of the greatest energy, the final direction of that energy, be it for good or ill, is determined by inner thoughts, fears, or hopes expressed through the ballot box or bullet, through treaty or terror, according to the spiritual values of the age. Is it too much to hope that, when all men can enjoy the serenity of ideal indoor conditions, the thirst for mortal power will give place to the thirst for mental poise, and to the lust for light?

"In the past mankind has blundered into civilization. With the knewledge before us we know that the populous nation which can keep its citizens, all its citizens, in ideal climatic conditions, whether indoor or outdoor, will have a great opportunity to lead the world in health, energy, trade, and culture."

A.C.J.

EDITORIALS

—Concluded from page 154

supply the public's need it will meet with even greater speed the ever-increasing demands of medical progress.

The Army Medical Library with its Index Catalogue is the most important contribution of this country to medical knowledge, ranking above the discovery of anesthesia, the discovery of insect transmission of disease, and the development of the modern public health laboratory. This was the judgment of Welch, and we agree with it.

CANCER

Edited by John Mumford Swan, M.D. (Pennsylvania), F.A.C.P. Executive Secretary of the New York State Committee of the American Society for the Control of Cancer, Inc., assisted by Charles William Hennington, B.S. (Rochester), M.D. (Hopkins), F.A.C.S.

SURVIVALS FOR FIVE TO NINE YEARS OF PATIENTS TREATED FOR CANCER IN THE HOSPITALS OF ROCHESTER, NEW YORK.

AGAIN we are making a report on the Five Year and Ten Year Survivals of patients with cancer treated in the hospitals of Rochester. This year we are able to add 105 new Five Year Survivals, which brings the total number of patients surviving a minimum of five years after being treated in the wards of this group of hospitals to 879.

The follow-up system has been difficult this year because the record rooms of the hospitals have been struggling with insufficient personnel. Nevertheless, out of 275 patients who were living in 1944, we have had reports this year of 206 living, twenty-four died and forty-five lost. The details of these cases will be found in Table I.

There are two rather unusual cases among those newly reported this year. One is a patient who had a malignant tumor of the brain who has lived five years. The patient was treated in Strong Memorial Hospital by Dr. Van Wagenen and the description of the lesion was as follows: "The growth was soft and as much as possible was withdrawn by suction. The surgical treatment was supplemented by x-irradiation over the operative field and the vertebral column. This patient was seen in the Tumor Clinic on October 22d. He was well and there was no evidence of recurrence. The histological diagnosis was medulloblastoma."

In the case of the patient from Highland Hospital reported to have had cancer of the ovary, we have the following information furnished by Dr. Gibb: "When the abdomen was opened a mass was discovered in the omentum. Search showed that there was a cancer of the left ovary which had metastasized to the omentum. The patient is reported as living without evidence of recurrence this year. At the time of the operation the patient was 65 years old and had a life expectancy of 11.1 years. She has already survived nearly half of her life expectancy."

Reported at the Twenty-first Annual Meeting of the New York State Committee of the American Society for the Control of Cancer held in Rochester, October 30, 1945.

TABLE I

	To be accounted for	LIVING	DEAD	LOST
Carcinoma of the Breast				
Treated in 1936 (9 year survivals)	20	16 (1)	1 (3)	3
Treated in 1937 (8 year survivals)	21	12 (2)	3 (3) (4)	6
Treated in 1938 (7 year survivals)	15	7	3 (7)	5
Treated in 1939 (6 year survivals)	26	23 (1)	0	3
Carcinoma of the Gastro-Intestinal Tract				
Treated in 1936	4	3	0	1
Treated in 1937	13	9	2 (6)	2
Treated in 1938	6	2	4 (8)	0
Treated in 1939	10	8	1 (5)	1

Carcinoma of the Genito-urinary Tract				
Treated in 1936	0	0	0	0
Treated in 1937	2	2	0	0
Treated in 1938	5	3	1 (3)	1
Treated in 1939	13	8	1 (4)	4
Carcinoma of the Ovary				
Treated in 1936	4	3	0	1
Treated in 1937	1	1	0	0
Treated in 1938	2	1	0	1
Treated in 1939	4	3	1 (3)	0
Carcinoma of the Uterus				
Cervix				
Treated in 1936	6	5	1 (9)	0
Treated in 1937	7	6	1 (3)	0
Treated in 1938	10	10 (1) (9)	0	0
Treated in 1939	19	15	1 (3)	3
Fundus				
Treated in 1936	7	6	0	1
Treated in 1937	7	4	0	3
Treated in 1938	10	10 (10) (11)	0	0
Treated in 1939	13	11	1 (4)	1
Miscellaneous Malignancies				
Treated in 1936	7	6 (1)	1 (12)	0
Treated in 1937	4	4	0	0
Treated in 1938	13	7	1 (3)	5
Treated in 1939	26	21 (13)	1 (14)	4

(1) One living with recurrence.
(2) Two living with recurrence.
(3) Cause unknown.
(4) One died of general carcinosis.
(5) Postoperative pneumonia. No evidence of recurrent cancer in abdomen.
(6) Died of recurrence.
(7) Three died of lung metastasis.
(8) One died of carcinomatosis, one of peritonitis, one of unknown cause and one of accidental gas poisoning.
(9) One case of stump cancer.
(10) One case of sigmoid and uterus.
(11) One case of chorionepithelioma.
(12) Died of pneumonia.
(13) One case glioma of the eye transferred to 1938 group, operated 1933.
(14) Died of cerebral hemorrhage.

TABLE II

Five Year Survivals—1945

GENESEE HOSPITAL

Organ	Surgeon
1. Adamantinoma	Wilson and Brown
2. Bladder	Paine
3. Bladder	Paine and McEachren
4. Bladder	Paine
5. Breast	Fisher
6. Breast	Sumner
7. Colon	Rumbold
8. Skin	Brown
9. Uterus	Snow, Sr.

HIGHLAND HOSPITAL

1. Breast	Calihan
2. Breast	Calihan
3. Breast	J. Jameson
4. Breast	Angevine
5. Cecum	Simpson
6. Cecum	Stalker
7. Inguinal Lymphnode	Angevine
8. Kidney	Melen
9. Ovary	Gibb
10. Sigmoid	Stalker
11. Skin (face)	Angevine
12. Testicle	Dean
13. Testicle	Fowler
14. Uterus	Simpson

PARK AVENUE HOSPITAL

1. Breast	Gage
2. Breast	Lenhart
3. Skin (face)	Gage
4. Skin	Gage

ROCHESTER GENERAL HOSPITAL

1. Breast	W. Witherspoon
2. Breast	Densmore
3. Breast	Stewart
4. Breast	Prince
5. Breast	Prince
6. Breast	Staff
7. Breast	McLoughlin
8. Breast	D'Amanda
9. Breast (Nipple)	Lakeman
10. Cervix	Fishbein
11. Cervix	Staff
12. Colon	Pulsifer
13. Colon	C. Witherspoon
14. Parotid	Prince
15. Parotid	Prince
16. Rectum	Lakeman
17. Sigmoid	D'Amanda
18. Skin (face)	Staff
19. Skin (face)	Staff
20. Skin (nose)	Staff
21. Skin (nose)	Staff
22. Skin (nose)	Staff
23. Skin (nose)	Staff
24. Stomach	Staff
25. Uterus	Dietel

*ST. MARY'S HOSPITAL

1. Breast	Staff
2. Breast	Percy
3. Breast	LaPalm
4. Breast	Pfaff
5. Eye (melanoma)	Snell

*Two patients operated in 1940 for carcinoma of the breast were operated in 1944 for primary carcinoma of the opposite breast. They are not counted as five year survivals at this time although it is five years since the first operation was done. They are primary tumors and not metastases.

6.	Tongue	Guzzetta
7.	Uterus	Zielinski

STRONG MEMORIAL HOSPITAL

1.	Antrum (Basal cell)	Young
2.	Bone	Schwartz
3.	Brain	Van Wagenen
4.	Breast	Mahoney
5.	Breast	Mahoney
6.	Breast	Pearse
7.	Cervix	Elden
8.	Cervix	George
9.	Cervix	Boyd
10.	Cervix	Wilson
11.	Cervix	Wilson
12.	Cervix	Wilson
13.	Cervix	Wilson
14.	Cervix	Wilson
15.	Cervix	Wilson
16.	Cervix	Wilson
17.	Cervix	Wilson
18.	Cervix	Wilson
19.	Cervix	Wilson
20.	Cervix	Wilson
21.	Cervix	Wilson
22.	Cervix	Wilson
23.	Colon	Buxton
24.	Melanoma (forehead)	Pearse
25.	Ovary	Wilson
26.	Parotid gland	Young
27.	Parotid gland	R. Brown
28.	Rectum	Mahoney
29.	Rectum	R. Brown
30.	Rectum	Pearse
31.	Seminal-vesicle	McKinstry
32.	Skin (eyelid)	Young
33.	Skin (Hand-squamous cell)	Zuck
34.	Tongue (squamous cell)	Mahoney
35.	Uterus (sarcoma)	Wilson
36.	Uterus	Wilson
37.	Uterus	Wilson
38.	Uterus	Wilson

LIVING WITH RECURRENCE

1.	Breast	Buxton
2.	Breast	Egel
3.	Breast	Winslow
4.	Breast	Sewell
5.	Breast	Guptill
6.	Cervix	Ritchie
7.	Hodgkin's	Mahoney
8.	Lymphosarcoma	Grice

SUMMARY

Genesee Hospital	9
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Adamantinoma	1
Antrum	1
Bladder	3
Bone	1
Brain	1
Breast	29
Cecum	2
Cervix	19
Colon	4
Eye	1
Hodgkin's	1
Inguinal lymphnode	1
Kidney	1
Lymphosarcoma	1
Melanoma	1
Ovary	2
Parotid gland	4
Rectum	4
Seminal-vesicle	1
Sigmoid	2
Skin	12
Stomach	1
Testicle	2
Tongue	2
Uterus	8
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Bibliography

Previous reports of five to nine year survivals have been made as follows:

MEDICAL TIMES: July, 1932; 60:218. June, 1933; 61:179. March, 1934; 62:81. May, 1937; 65; 253. May, 1938; 66:246. March, 1939; 67.125. May, 1940; 68:223. July, 1941; 69:307. November, 1942; 70:390. June, 1943; 71:135. February, 1944; 72:47. March, 1945; 73:79, and in the New York State Journal of Medicine: July, 1935; 35:731.

BILIARY DISEASE

—Concluded from page 161

IN presenting this series of one hundred and forty-two consecutive cases I am sure you will agree that a mortality of 2.9 per cent is a commendable showing. This is a comparatively small series and I do not wish to imply that such a small series warrants the feeling that we have reached a satisfactory solution. A group of complications may arise in our next series to greatly offset the results in this one.

It is my humble opinion that a standard procedure for all cases cannot be accepted. Cholecystostomy alone has a very definite and valuable place in the management. Cholecystectomy should not be attempted in the presence of advanced pathology, but rather cholecystostomy with a minimal disturbance to nature's walling-off protective processes. I believe a secondary cholecystectomy should be done in such cases as soon as conditions warrant, preferably before leaving the hospital, and that many acute cases should be allowed to subside into the chronic, and operated when complications and concomitant diseases are under control. In conclusion, the experience and judgment of the surgeon should be the deciding factor in what to do when, and when to do what, in each individual case.

27 Eighth Avenue

CONTEMPORARY PROGRESS

OPHTHALMOLOGY

The Eye as a Guide to Latent Nutritional Deficiency Diseases

A. A. KNAPP (*Bulletin of the New York Academy of Medicine,* 22:217, April 1946) reports a study of the eye symptoms among Marine Corps and Navy personnel returned to an Advanced Base Hospital after return from active duty in the South Pacific where canned foods had been used almost exclusively for more than six months. This involved deficiency in several essential food elements, including vitamins and minerals. These men, however, did not show symptoms of any definite deficiency disease. Many of them complained that their sight was impaired. When the visual acuity was tested, a definite and in some cases a marked myopia was found, whereas a minimum reading of 15/20 in each eye had been necessary for enlistment before Pearl Harbor. A considerable percentage of these myopic subjects also complained of night-blindness. Many of these men complained of redness and itching of the eyes with photophobia, which was found to be due to vernal catarrh. In several cases the ocular fundi were found to be slightly hazy and the optic disc showed a slightly blurred margin. In some pallor of the optic nerve was found; as a rule there were signs of malaria or of some focus of infection in these cases. In all these cases the main treatment was administration of an adequate diet with administration of vitamin D and calcium in the cases of myopia. Any infection present was also treated. Over 50 per cent of the patients with progressive myopia showed a reduction of the myopia or no further progression. The other eye symptoms also showed rapid improvement when the nutritional deficiency was corrected. It is emphasized that these patients did not show clinical evidence of malnutrition except for the eye symptoms.

COMMENT

There must be a large element of doubt in observations of this kind because the conditions under which these men worked in the South Pacific were strenuous and varied. There must necessarily have been many other factors involved besides canned foods.

R.I.L.

A Visual Test for Infants

J. N. EVANS (*American Journal of Ophthalmology* 29:73, June 1946) describes a visual test for infants. The illiterate E symbol turned at different axes can be used for children three years of age and coccasionally in somewhat younger children, but the test devised by the author is suitable for much younger infants and children. A small tray with a white opaque plastic bottom is used as the background, and iron filings, as the test object, are moved about on the white surface by a bar magnet on the underside of the tray. Iron filings of different sizes are used, each being attached to a strip of paper on which the size as measured by the micrometer is indicated. If objects larger than 0.5 mm. are to be used, steel ball bearings that can be obtained in graduated sizes may be employed. The child is tested with objects of gradually increasing size until its attention is attracted by the movement. When the attention is attracted, the child will try to find the filings or follow their movements. One eye is then covered with the hand; if an amblyopic eye is covered, the child's interest in the moving test object is maximum; but if the good eye is covered, the child will try to remove the covering hand in order to follow the movement. If the child does not give evidence of perceiving the largest test object, a sharply defined and measurable light disc is projected through the bottom of the tray by applying the stem of the ophthalmoscope with its pinhole cap directly to it. The light disc is moved on the surface of the tray and the child's response noted. This test does not measure visual acuity, but it does measure visual perception of bright-

ness, contrast and movement. After using this test in several hundred infants, the author finds that children as young as three months of age perceive and respond to the movement of iron filings. This method, therefore,, allows a study to be made of the child's visual responses "nearly from birth" up to the age when the illiterate E charts can be used.

COMMENT

These tests are an addition to what we have had in the past. At best, in such young children, we cannot expect the element contributed by mental capacity which makes visual tests reliable.

R.I.L.

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Oral Penicillin in Ocular Inflammations

P. J. LEINFELDER and W. D. PAUL (*American Journal of Ophthalmology,* 29:450-51, April 1946) have found that many patients with acute ocular inflammations are benefited by the parenteral administration of penicillin, but the local ocular condition is not always sufficiently severe to warrant hospitalization for intramuscular injections. Local applications may be effective in these cases, but patients have difficulty with the correct application of ointments and the use of solutions is not always successful because of the rapid deterioration of penicillin in such media. Oral administration of penicillin in combination with aluminum dihydroxy aminoacetate (glycillin), as described by Paul and his associates, has been tried in 15 cases of ocular inflammation, including conjunctivitis, blepharoconjunctivitis, hordeolum externum and internum and uveitis. The dosage of penicillin employed varied, but the optinum dosage was found to be 20,000 units given every hour for four doses; in some severe cases 200,000 units may be given the first day. The dosage on successive days is determined by the response to the preceding day's dosage. Marked improvement, and, in acute cases, complete healing, was obtained within two to three days in 9 cases. One patient with acute blepharitis showed improvement in 24 hours but developed a dermatitis considered to be due to the penicillin, because of which treatment was stopped. No improvement was obtained in 5 cases, which included 3 cases of uveitis, and one case each of chronic blepharoconjunctivitis and chalazion. In most of the cases in which treatment was successful, some improvement was noted within six hours, and in all these cases there was definite improvement in twenty-four hours.

COMMENT

There is a large field in which oral penicillin should be of great service. The report given is in agreement with others but we must await the development of the remedy and its preparations that will make it available to the many.

R.I.L.

Hyperpyrexia in Treatment of Ocular Conditions Due to Syphilis

H. C. KNIGHT and W. S. SCHACHAT (*Archives of Ophthalmology,* 35:271, March 1946) report 35 cases of syphilitic diseases of the eye in which hyperpyrexia

induced by the Kettering hypertherm was used in addition to specific antisyphilitic chemotherapy. In employing the Kettering hypertherm, the usual precautions were observed; treatments were usually of five-hours duration with a temperature of 104.5 to 105.5° F. The duration of each treatment, the intervals between treatments and the total amount of treatment were carefully individualized by cooperation between the department of ophthalmology and the department of fever therapy. In 19 cases of syphilitic optic atrophy treated, there was definite improvement in 4 cases, and arrest of the progression of symptoms in 7 cases; in one case there was some improvement in one eye while symptoms progressed in the other; in 7 cases, there was no improvement or arrest; one of these patients was blind before treatment was instituted. In 6 cases of syphilitic choroiditis, there was definite and rapid improvement in 4 cases, in which the disease was in a more or less active stage; in the 2 cases in which the treatment was without effect, old, quiescent lesions were present. In 6 cases of syphilitic iritis, results were excellent; prompt relief from pain was obtained, and in 4 cases the lesion cleared completely. There were only 4 cases of syphilitic keratitis in this series; results with the hypertherm treatment were excellent, especially in the prompt relief of pain and photophobia that characterize this condition.

COMMENT

This form of treatment has been of distinct service in neglected cases of specific uveitis. We cannot expect anything in cases of optic atrophy except to occasionally hold what vision the patient may have when the treatment is begun. The difficulty is the cumbersome apparatus and the personnel necessary to use it.

R.I.L.

Acid Burns of the Eye

J. S. FRIEDENWALD, W. F. HUGHES, Jr. and H. HERRMANN (*Archives of Ophthalmology* 35:98, Feb. 1946) report a study of the effect of various concentrations of different acids on the cornea of the rabbit's eye. Clinically it has been noted that acid burns of the eye as a rule are of a more benign character than alkali burns. The experiments described show that the special characteristics of acid burns, in contrast to burns with alkalis and indelible dyes, are as follows: There is somewhat slower penetration of acids into the eye, and rather sharp demarcation of the lesion. Acid burns are of a non-progressive type. In acid burns, there is little tendency to desquamation of the corneal epithelium; little tendency to exudative manifestations, such as purulent discharge with or without secondary infection, or leukocytic infiltration of the conjunctiva, cornea, and iris; and little tendency to selective involvement of the blood vessels; there is no early loss of corneal mucoid; and a definite tendency for the relatively opaque cornea to heal. These experiments have also shown that the severity of the corneal lesions produced by acids is related to the protein affinity of the anion and its protein-precipitating ability. Anions with a high protein-precipitating ability cause corneal lesions at a higher pH than those with low protein affinity. These anions with high protein-precipitating ability are large, however, and show poor penetration through the corneal epithelium and poor diffusibility in the stroma. The findings indicate that the clinical and pathologic characteristics of acid burns of the cornea may be explained by the precipitation and denaturation of the corneal proetins by the acid solutions.

COMMENT

This is an excellent statement of the differences between acid and alkali burns. The eye recovers much better from acid burns and is less crippled afterward. However, our hope lies in prevention rather than cure.

R.I.L.

NEUROLOGY

Prefrontal Lobotomy: Survey of 331 Cases

WALTER FREEMAN and J. W. WATTS (*American Journal of Medical Sciences,* 211:1, Jan. 1946) report that they have performed the operation of prefrontal lobotomy in 331 cases in the past 9 years. Involutional psychoses (108 cases) and schizophrenia (126 cases) represent the majority; the operation was also done in 51 cases of obsessive states, 38 cases of psychoneuroses, and 8 cases of unclassified psychoses. The technic of the operation has been perfected so that the thalamofrontal radiation is severed in such a way that the emotional component of the psychosis or neurosis is reduced, but the individual's ability to adjust to life outside an institution is not sacrificed. The maximum operation is required in schizophrenia of long standing. Of the entire series of 331 cases, 43 have been operated on too recently to determine results; of the remainder, 52 per cent of patients showed good results, and 32 per cent fair results; and 13 per cent poor results; 3 per cent (18) have died, but some of these patients showed satisfactory improvement during life. Of the 260 patients living for 6 months to 9 years after operation, 30 per cent are regularly employed, 8 per cent are partly employed, 22 per cent are keeping house, 23 per cent are cared for at home, and 17 per cent are still in the hospital, but for the most part, the latter group, while still requiring hospitalization, are improved. The best results were obtained in obsessive tension states, in hypochondriasis, intractable psychosomatic conditions, and agitated depression.

Histologic Changes in the Brain in Cases of Fatal Injury to the Head: Alterations in Nerve Cells

C. W. RAND and C. B. COURVILLE (*Archives of Neurology and Psychiatry,* 55:79, Feb. 1946) report a study of the histologic changes in the nerve cells of the cortex of the cerebrum and cerebellum. On the basis of their findings the authors conclude that these cells may show general changes, which result from the shock of the traumatizing force or from generalized edema. The "shocking" effect of the injury apparently causes loss of tigroid substance primarily and eventually chromatolysis. The edema causes vacuolation of the cells. In addition the nerve cells of the cortex and cerebellum show various changes due to direct local trauma. These changes, as observed, include dead cells with retention of normal structure (preservation necrosis); infiltration by pigment, which is found in the vicinity of cerebral hemorrhage; pyknotic, ischemic or sclerotic changes and lipoidal degeneration, which result from local disturbance of the circulation; a modified edematous change, due to local rather than general adema; ghost cells (acute total disintegration); acute progressive necrosis; multiplication of nuclei, which may represent an abortive attempt at regeneration; and the so-called "calcification," which is in reality ferrugination (("mummified" relics of dead cells). The authors are of the opinion that definite and widespread chromatolytic changes in the cortical cells, which may persist for some time in non-fatal cases of brain injury before reversible changes take place, are responsible for the persistent residual mental disturbances in such cases. Local changes in nerve cells which occur at the margin of focal injuries may be responsible for the "deficit pictures" resulting from loss of functional areas in surviving patients and such local changes may also be responsible for post-traumatic convulsive seizures.

Hemiatrophy of the Body in Adult Life

NORMAN RIEDER and G. S. PLAYER (*Journal of Nervous and Mental Diseases,* 103:1, Jan. 1946) report 2 cases of hemiatrophy of the body occurring in adults. Both of these patients were soldiers, but had sustained no injury before the onset of the hemiatrophy. In one case, the patient had been in the hospital for treat-

ment for trench feet and was about to be returned to duty when it was noted that the right arm and leg were smaller than the left; the difference in the circumference of the calves was 2 inches and in the circumference of the biceps 1½ inches. The soldier had noted no symptoms except that in the 3 months preceding his admission to the hospital there was tiring of the right leg. In the second case, the patient was admitted to the hospital because of minor headaches on walking and dull pain and stiffness in the right leg. A year previously he had had a medical examination because he noted that he could not run as fast as previously; some abnormality in the right leg was noted at that time, and a few months later pain in this leg and headache developed. After the appearance of these symptoms he had a fall from a jeep with momentary loss of consciousness; this was followed by transitory diplopia and some weakness of the right arm. Both of these symptoms had disappeared before he was seen by the authors. There was, however, a slight but definite atrophy of the right side. The difference in the circumference of the calves was less than an inch, but face, trunk and extremities were all involved; the Babinski sign was positive on the right side. In both these cases pneumo-encephalograms were made. In the first case, there was a bilateral internal hydrocephalus, with the left lateral ventricle larger than the right; in the second case was a dilatation of the left lateral ventricle, especially the middle portion. The etiology of the hemiatrophy in these cases is not clear, but it was evidently of cerebral origin. The authors are of the opinion that many cases of facial hemiatrophy are also of cerebral origin; and that pneumo-encephalograms should be made in all cases of facial hemiatrophy and atrophy of an extremity, even if the atrophy is slight.

Causalgia Secondary to Injury of the Major Peripheral Nerves: Treatment By Sympathectomy

F. F. ALLBRITTEN, JR. and GEORGE L. MALTBY (*Surgery*, 19:407, March 1946) have found that in cases of causalgia following peripheral nerve injury, the nerve, if exposed, is rarely completely divided, but there is usually a neuromatous area at the site of injury. If the nerve is found to be severely damaged, the damaged area may be excised and the nerve sutured; this will often relieve the pain. But where there is no gross damage or a neuromatous area is present, division of the nerve is not indicated. In such cases a test sympathetic block with procaine should be done, and if this gives temporary relief, a sympathectomy may be done at the patient's request. In 67 cases of causalgia following peripheral nerve injury, 30 requested sympathectomy after this test. In 22 of these 30 patients the lower extremity was involved and lumbar sympathectomy was done: the upper extremity was involved in 8 cases and preganglionic dorsal sympathectomy was done. In one case of lumbar sympathectomy, a second operation was necessary to remove the 1st and 2nd lumbar ganglia after the 3rd and 4th lumbar ganglia had been removed at the first operation. Good or excellent results were obtained in 28 of these 30 cases; but there was no relief of pain in 2 cases. On the basis of their experience, the authors are convinced that in causalgia following peripheral nerve injury, the best results will be obtained by early sympathectomy with sympathectomization of the site of the injury as well as of the area of maximum pain.

Importance of Neural Fibroblasts in the Regeneration of Nerves

D. DENNY-BROWN (*Archives of Neurology and Psychiatry*, 55:171, March 1946) reports experiments on section and repair of peripheral nerves (the ulnar and sciatic nerves). From his findings he is convinced that no cut nerve end remains normal in structure; Schwann cells disappear for at least 3 mm. from the cut end and are damaged for 1 or 2 cm. The neural fibroblasts that are present in the perineurium and endoneurium are activated by injury and proliferate. These fibroblasts always accompany regenerating nerve fibers and often precede them and ensheath the regenerating nerve fibers and bundles. The

factors that favor collagenization by these cells are tension and ischemia, which are to be avoided in all nerve sutures and grafts. Animal experiments have shown that perineurium can be effectively used for repair of nerve defects. In autogenous nerve grafts it was found that the epineurium became adherent to surrounding structures. With perineurial grafts, there is no adhesion to surrounding structures except at the suture lines; revascularization is rapid and the regeneration of nerve fibers satisfactory. In addition to the fibroblast, the perineurium and endoneurium of peripheral nerve contains another specialized connective tissue cell, a cell of the mesothelial type. It is uncontrolled migration of these mesoblastic cells that produces traumatic neuroma; such uncontrolled migration and dispersal of these cells can be prevented by providing an intact perineurial sheath. While the perineurial graft has given good results in nerve repair in animal experiments, it has not yet been employed in man, and further study of its possibilities for clinical use are necessary.

✚

Presidency of the Women's Medical Association of New York City

DR. Elaine Ralli, associate professor of medicine, New York University College of Medicine, was elected president of the Women's Medical Association of New York City at its annual dinner and business meeting at the Cosmopolitan Club.

Dr. Adelaide Romaine, of the medical staff of the Federal Reserve Bank, was elected first vice president and Dr. Lilian Cook Warnshuis, assistant clinical professor of medicine, New York University College of Medicine, was elected program committee chairman.

Additional Rationed Sugar Declared Unessential

In view of the present sugar shortage existing in the United States, practicing physicians throughout the country may be interested in what the Subcommittee on Medical Food Requirements of the National Research Council in Washington, D. C., thinks of the situation.

This subcommittee serves in an advisory capacity to the Office of Price Administration in its consideration of cases submitted to it by individuals appealing from decisions of its field offices in applications requesting sugar in addition to the regular allotment, alleged to be necessary because of illness.

The following represents the considered judgment of the subcommittee on Medical Food Requirements:

"Additional rationed sugar, beyond the 15 pounds per capita per year now allocated under current rationing regulations, is not essential in the treatment of any disease, because unrationed sources of carbohydrate, including syrups, preserves and processed fruits and juices, are now readily available to provide a source not only of readily assimilable carbohydrates, but also a wide range of palatable substances calculated to appeal to the palate of individuals, sick and convalescent, whose appetites have been impaired by illness."

New York's Blue Cross Plan Reflects Upswing in Nation's Birth Rate

THE nation's increasing population is reflected in records of Associated Hospital Service, which indicate the birth of 7,960 babies during the first quarter of 1946, or 14 babies for every thousand subscribers as against 5,797 or 12 and one-half per thousand during the same period a year ago. This brings the total number of babies born to subscribers since the plan's inception to approximately 193,000. Complications in connection with childbirth are also on the increase, the report reveals. This year there were 25 per cent more cases in which pregnancy was terminated prematurely without childbirth than during the first three months of last year. Maternity cases represent the largest percentage of cases hospitalized under New York's Blue Cross Plan.

Medical BOOK NEWS

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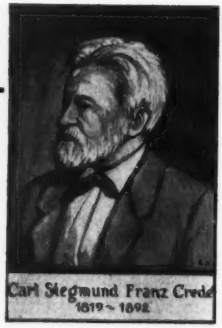

Classical Quotations

● **Each eye is opened by means of two fingers, a single drop of a 2 per cent. solution of silver nitrate hanging on a little glass rod is brought close to the cornea until it touches it, and is dropped on the middle of it.**

CARL SIEGMUND FRANZ CREDÉ

Die Verhutung der Augenentsundung der Neugeborenen. **1884.**

New Edition of Conybeare

Textbook of Medicine. By Various Authors. Edited by J. J. Conybeare, M.D. 7th Edition. Baltimore, The Williams & Wilkins Co., [c. 1945]. 8vo. 1,164 pages, illustrated. Cloth, $8.00.

THIS is a textbook of Medicine with its preface to the seventh edition dated 1945. Conscious of some of its shortcomings it states that "With the increasing tempo of the War the task of producing a new edition has become increasingly difficult, and I again crave the indulgence of readers in their criticism of errors" etc.

The above quote however, will not excuse a number of omissions and misstatements some of which follow:

The statement that besides the "fixed" types of Pneumococci distinguished as types I-II-III "there occur nearly thirty other strains"; these "do not occur individually sufficiently frequently to justify their separation as distinct types,—and are classed together as Group IV".

Even in a 1938 edition of a popular American text book the percentage of all types is given. The omission of even mentioning Penicillin in connection with the treatment of pneumonia, is inexcusable in a 1945 edition; nor will it suffice to say "For details of treatment (with Penicillin) the reader is referred to current literature".

What a discussion could follow this statement: "Despite the more dramatic appeal of cancer and tuberculosis, Bright's disease is the most important medical problem of the day".

It seems that the inclusion of a specialty on "Common Diseases of the Skin" is not the province of a text book of Medicine. It cannot be adequately presented and students and practitioners have their separate texts anyway.

A discussion of all forms of Typhus Fever including the epidemic form, the endemic form, Brill's disease, Scrub Typhus, Rocky Mountain Spotted Fever, all this in two pages is reminiscent of the treatment of these diseases long before the days of "One World".

In a previous review it was stressed that this text must be broupt up to date in order to compete at all with the many excellent works now available.

S. R. BLATTEIS

Psychologic Effects of War

Total War and the Human Mind. A Psychologist's Experiences in Occupied Holland. By Major A. M. Meerloo, M.D. New York, International University Press, [c. 1945]. 8vo. 78 pages. Cloth, $1.75.

IF the reader desires a vivid, realistic picture of human behavior under enemy occupation (Holland), he could do no better than read Dr. Meerloo's highly-readable and attention-holding book. Herein are to be found mass reactions to Hitler's

psychological weapons, and how anti-propaganda measures can be brought about to offset mass delusion and hyper-suggestion. This is the most profound and yet readable account of the effect of total war on an occupied country that has yet come to the reviewer's attention.

FREDERICK L. PATRY

Gynecology for the Student

Medical Gynecology. By James C. Janney, M.D. Philadelphia, W. B. Saunders Co., [c. 1945]. 8vo. 389 pages, illustrated. Cloth, $5.00.

THE subject matter of Dr. Janney's Medical Gynecology stresses a phase of gynecology lightly regarded in the standard text books. The intimate correlation of physiology and the patient's complaints presents a logical approach to therapy for the abnormal. The orderly arrangement and categorization of the various gynecological complaints, elicited by careful history-taking, represent a sound basis for understanding fundamental gynecological conditions. Office treatment is aptly illustrated. Throughout the volume there are frequent personal evaluations by the author of various technics in therapy, which make for stimulating reading. Controversial subjects are discussed with fairness. The book has much to recommend its perusal by the student, as well as the seasoned practitioner.

ALFRED A. SCHENONE

A Country Surgeon Reminisces

Ventures in Science of a Country Surgeon. By Arthur E. Hertzler, M.D. Halstead, Kansas, The Author, [c. 1944]. 304 pages, illustrated. 8vo.

THE good doctor has gathered his anatomical, pathological and surgical lore and is offering the results of his extensive experiences to those interested in the science and art of medicine. In the Preface, he quotes one of his grandsons as saying, "Grandpa, you will never die. I am going to begin where you leave off". Well, this young man has undertaken no mean arbeit. Dr. Hertzler laid a foundation for his medicine and surgery on an intensive and continuous study of anatomy and pathology as is given to few doctors to ever hope to equal. Unfortunately, Dr. Hertzler seems, at times, impatient of the opinions of others. Read his chapters on Chronic Appendicitis. Here he is outstanding in his convictions and unequivocal in his conclusions. There are a few chapters not devoted to surgical pathology and technique but to reminiscences and subjects of medical interest such as *The Writing of Books* and *Building a Library.* They all make interesting and instructive reading.

JOSEPH RAPHAEL

Moorhead's Traumatic Surgery

Clinical Traumatic Surgery. By John J. Moor-Moorhead, M D. Philadelphia, W. B. Saunders Co., [c. 1945]. 8vo. 747 pages, illustrated. Cloth, $10.00.

MOORHEAD properly dedicates his current book to the wounded at Pearl Harbor. Rarely has it been given to a surgeon to, so to say, have almost all of surgery thrown at him with dramatic suddeness as it was on the historic rising of the curtain of war which will "live in infamy."

Based on wide teaching experience the author places emphasis, as he states, on safety and simplicity in surgical technic. This objective is admirably and impressively reached in the present volume. Above all it is a timely one, dealing as it does with injuries in general and with war injuries in particular.

The illustrations by Alfred Feinberg are of his usual high degree of excellence but some others leave much to be desired.

On the whole this attractive book can be recommended as a good addition to the surgeon's library.

ALFRED H. IASON

Early New England Medical Education

The Story of a Country Medical College. A History of the Clinical School of Medicine and the Vermont Medical College, Woodstock, Vermont, 1827-1856. By Frederick Clayton Waite, Ph.D. Montpelier. Vermont Historical Society, [c. 1945]. 8vo. 213 pages, illustrated. Cloth, $4.50.

HERE is the history of an early country medical college in Vermont. No dry history, this, but a vivid picture of a type of institution which exerted a profound influence on medical education and the

medical profession of the nineteenth century. The entire medical scene is delightfully portrayed by a master hand. Every physician will enjoy this very readable book. And for those interested in medical education it is a "must".

CHARLES A. GORDON

Neuropsychiatry

Manual of Military Neuropsychiatry. Edited by Harry C. Solomon, M.D., and Paul I. Yakovlev, M.D., with the collaboration of Lt. Col. Wilfred Bloomberg, M.C., AUS, et al. Philadelphia, W. B. Saunders Co., [c. 1944]. 764 pages, illustrated. 12mo. Cloth, $6.00.

FORTY-FIVE authors contribute to this excellent small volume, and it constitutes a most comprehensive reference text for those interested in clinical neurology and psychiatry. Though labeled a manual of Military Neuropsychiatry, it may be regarded as a reference book that should be of invaluable service also for the general practitioner and the clinical neuropsychiatrist. Forty-nine topics are discussed in an authoritative manner, making the volume a rich source of information.

A. M. RABINER

Corrigendum

Book Review Editor
Medical Times
1313 Bedford Avenue
Brooklyn, New York
Dear Sir:

We have just received the April issue of *Medical Times* and wish to call your attention to an error in the selling price of our book entitled "Studies in Biophysics: The Critical Temperature of Serum," by P. L. du Nouy, mentioned in the review on page 121.

The book is listed at $8.50, but the correct selling price is **$3.50.** May we urgently request that you prominently display a correction on this in the next issue of the journal. We are sorry indeed if the incorrect information was supplied by us and hope you will forgive any carelessness on our part. At any rate, we shall appreciate it very much if you will have this taken care of as soon as convenient.

With many thanks for the review and appreciating your cooperation, we are,

Sincerely yours,
REINHOLD PUBLISHING CORP.

BOOKS RECEIVED

for review are promptly acknowledged in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notices will be promptly published shortly after acknowledgment of receipt has been made in this column.

Howell's Textbook of Physiology. Edited by John F. Fulton, M.D., with the collaboration of Donald H. Barron, Ph.D., John R. Brobeck, M.D., Robert W. Clarke, Ph.D., et al. 15th Edition. Philadelphia, W. B. Saunders Co., [c. 1946]. 8vo. 1304 pages, illustrated. Cloth, $8.00.

Principles of Dynamic Psychiatry. Including an Integrative Approach to Abnormal and Clinical Psychology. By Jules H. Masserman, M.D. Philadelphia, W. B. Saunders Co., [c. 1946]. 8vo. 322 pages, illustrated. Cloth, $4.00.

Adult Adjustment of Foster Children of Alcoholic and Psychotic Parentage and the Influence of the Foster Home. By Anne Roe, Ph.D. & Barbara Burks, Ph.D. with a chapter on SIBLING ADJUSTMENT in collaboration with Bela Mittelmann, M.D. New Haven, Quarterly Journal of Studies on Alcohol, [c. 1945]. 8vo. 164 pages. Paper, $2.00.

Alcohol, Science and Society. Twenty-Nine Lectures with Discussions as Given at the Yale Summer School of Alcohol Studies. New Haven, Quarterly Journal of Studies on Alcohol, [c. 1945]. 8vo. 473 pages. Cloth, $5.00.

Amputation Prosthesis. Anatomic and Physiologic Considerations, with Principles of Alignment and Fitting Designed for the Surgeon and Limb Manufacturer. By Atha Thomas, M.D. & Chester C. Haddan. Philadelphia, J. B. Lippincott Co., [c. 1945]. 8vo. 305 pages, illustrated. Cloth, $8.00.

The Physiological Basis of Medical Practice. A University of Toronto Text in Applied Physiology. By Charles Herbert Best, M.D. & Norman Burke Taylor, M.D. 4th Edition. Baltimore, Williams & Wilkins Co., [c. 1945]. 4to. 1169 pages, illustrated. Cloth, $10.00.

Where Do People Take Their Troubles? By Lee R. Steiner. Boston, Houghton Mifflin Co., [c. 1945]. 12mo. 265 pages. Cloth, $3,00.

The Microbiology of Foods. By Fred Wilbur Tanner, D.Sc. 2nd Edition. Champaign, Ill., The Garrard Press, [c. 1944]. 8vo. 1196 pages. Cloth, $12.50.

The World's Hunger. By Frank A. Pearson & Floyd A. Harper. Ithaca, N. Y., Cornell University Pr., [c. 1945]. 8vo. 90 pages. Cloth, $1.50.

A Handbook on Diseases of Children. Including Dietetics & The Common Fevers. By Bruce Williamson, M.D. 4th Edition. Baltimore, Williams & Wilkins Co., [c. 1945]. 12mo. 388 pages, illustrated. Cloth, $4.50.

Back to Life. The Emotional Adjustment of Our Veterans. By Herbert I. Kupper, M.D. New York, L. B. Fischer Publishing Corp., [c. 1945]. 12mo. 220 pages. Cloth, $2.50.

The Treatment of Peritonitis and Its Aftermath. By Thomas B. Noble, Jr., M.D. Indianapolis, A. V. Grindle, [c. 1945]. 8vo. 233 pages, illustrated.

Libido and Delusion. By Louis S. London, M.D. Washington, Mental Therapy Publications, [c. 1945]. 8vo. 136 pages, illustrated. Cloth, $2.50.

Modern Trends in Child Psychiatry. Edited by Nolan D. C. Lewis, M.D. & Bernard L. Pacella, M.D. New York, International Universities Pr., [c. 1945]. 8vo. 341 pages. Cloth, $6.00.